
San Francisco Bay Regional Water Quality Control Board

October 22, 2014
File No. 43S0120 (RWP)

Thermo Fisher Scientific, Inc.
ATTN: Mr. Rick Podlaski
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SUBJECT: Approval of *Vapor Intrusion Evaluation Summary of 1245 Terra Bella Avenue* for Former SpectraPhysics Site, Mountain View, Santa Clara County

Dear Mr. Podlaski:

This letter responds to your September 8, 2014, *Vapor Intrusion Evaluation Summary of 1245 Terra Bella Avenue* (Report). As explained below, I approve the Report and require you to submit mitigation reports.

Background

The 1245 Terra Bella Avenue property is located within the former SpectraPhysics site. The property owner, J.D. Molex One, LLC, plans to renovate the on-property building in preparation for a potential property transaction.

The Regional Water Board regulates the site under Order 91-025 (Order), Thermo Fisher Scientific, Inc. and TDY Industries, LLC, submitted the September 24, 2010, *Work Plan to Evaluate Potential Vapor Intrusion in the Off-Property Study Area* (Workplan) and then the May 9, 2014, *Work Plan Addendum for Vapor Intrusion Evaluation at 1245 Terra Bella Avenue* (Addendum). The Addendum incorporated the Workplan by reference and proposed the following activities to evaluate vapor intrusion:

- Conducting a building walkthrough to identify sample locations.
- Collecting indoor, pathway, and outdoor air samples with Summa canisters over a 10-hour period with the heating, ventilation, and air conditioning (HVAC) system turned off and later with the HVAC system turned on.
- Analyzing the samples using Method TO-15.
- Comparing the indoor air testing results with the following levels:
 - Outdoor air levels.
 - USEPA's interim trichloroethene (TCE) indoor air short-term response action levels for commercial properties (ARALs).
 - USEPA's regional screening levels for commercial properties (RSLs).

- Regional Water Board's December 2013 environmental screening level (ESL) for commercial properties.
- Evaluating all analytical results to determine if sufficient lines of evidence have been collected to evaluate potential vapor intrusion concerns.

Report Summary

HVAC-Off Results

The Report indicates that TCE and other chlorinated volatile organic compounds (CVOCs) were detected in the indoor air in the breakroom in breathing zone sample BZ-2 with the HVAC system turned off as follows:

- TCE up to 1.8 micrograms per cubic meter (ug/m^3) with an RSL of $3 \text{ ug}/\text{m}^3$ and an ARAL of $8 \text{ ug}/\text{m}^3$
- Freon 113 (1,1,2-Trichloro-1,2,2-trifluoroethane) up to $0.73 \text{ ug}/\text{m}^3$ with an RSL of 130,000 ug/m^3 .

Chloroform was detected up to $0.17 \text{ ug}/\text{m}^3$ in all breathing zone samples with an RSL of $0.53 \text{ ug}/\text{m}^3$.

The Report indicates that TCE and other CVOCs were detected in pathway sample PW-3 in the women's bathroom with the HVAC turned off as follows:

- PCE up to $1.2 \text{ ug}/\text{m}^3$ in pathway sample with an ESL of $2.1 \text{ ug}/\text{m}^3$.
- TCE up to $8.4 \text{ ug}/\text{m}^3$.
- Cis-1,2-dichlorethene (DCE) up to up $2.0 \text{ ug}/\text{m}^3$ in PW-3 with no RSL established.
- Vinyl chloride up to $0.14 \text{ ug}/\text{m}^3$ with an RSL of $2.8 \text{ ug}/\text{m}^3$.
- Chloroform up to $7.5 \text{ ug}/\text{m}^3$.
- Freon 113 up to $0.91 \text{ ug}/\text{m}^3$.

HVAC-On Results

The Report indicates that TCE and other CVOCs were detected in the indoor air of the chemistry lab in breathing zone sample BZ-18 and BZ-20 with the HVAC turned on as follows:

- Chloroform up to $0.16 \text{ ug}/\text{m}^3$ in BZ-18
- Freon 113 up to $0.60 \text{ ug}/\text{m}^3$ in BZ-18 and -20.

TCE and degradation biproducts DCE and vinyl chloride were not detected in the breathing zone samples.

The Report indicates that TCE and other CVOCs were detected in pathway samples PW-15 and -16 with the HVAC turned on as follows:

- TCE up to $0.39 \text{ ug}/\text{m}^3$ in PW-16.
- Chloroform up to $0.32 \text{ ug}/\text{m}^3$ in PW-15
- Freon 113 up to $0.63 \text{ ug}/\text{m}^3$ in PW-16.

Pathway sample PW-16 was located in the women's bathroom; and pathway sample PW-15 was located in the men's bathroom.

Based on the above results, the Report concluded that TCE was not detected in the breathing zone above the RSL of $3 \text{ ug}/\text{m}^3$ and that the building is safe to occupy. However, the Report indicated that a vapor intrusion mitigation system (VIMS) would be voluntarily installed and would consist of a combined soil vapor extraction and sub-slab depressurization system. A pilot study for this system

was conducted in July 2014 and the mitigation system is being designed based on the pilot study results.

Regional Water Board Response

The Report satisfies the Workplan and Addendum. I hereby approve it.

There is a potential for a vapor intrusion concern at the commercial property based on the following:

- TCE levels in groundwater, soil vapor, and indoor air pathway samples as follows:
 - Groundwater up to 340 micrograms per liter (ug/L) with an RSL of 5 ug/L.
 - Soil vapor up to 14,000 ug/m³ with an ESL of 3,000 ug/m³.
 - Indoor air HVAC-on breathing zone from non-detectable levels up to 0.39 ug/m³.
 - Indoor air HVAC-off breathing zone up to 1.8 ug/m³ and pathway sample up to 8.4 ug/m³.
- Potential long duration of the presence of these levels.
- Property located over the groundwater plume.
- Slab-on-grade building construction at the property.

Groundwater, soil vapor and an HVAC-off indoor air pathway sample are over their respective screening levels. Indoor air breathing zone samples are below their respective ESLs. The HVAC-off indoor air breathing zone sample is below but close to the RSL. When considering all of the above lines of evidence, we conclude that there is a potential for a vapor intrusion concern at the property that warrants additional vapor intrusion work.

There are two options for proceeding in this matter: 1) install and properly operate and maintain a VIMS, or 2) further develop lines of evidence for the vapor intrusion pathway (e.g., additional indoor air sampling and modeling to derive site-specific soil gas and groundwater screening levels). You have proposed a VIMS.

Based on the above, you are required to submit the following reports:

- By **December 15, 2014**, a VIMS construction and completion report.
- By **December 22, 2014**, a VIMS operation and maintenance plan.

We received the September 30, 2014, *Vapor Intrusion Mitigation System Work Plan* that includes the proposed VIMS design and the results of the soil vapor extraction and sub-slab depressurization pilot study and may respond to this submittal in a separate letter. The VIMS construction and completion report should be stamped and signed by a State-licensed Professional Engineer that the VIMS is operating as designed and was constructed according the manufacturer's specifications.

This requirement for reports is made pursuant to Water Code Section 13267, which allows the Regional Water Board to require technical or monitoring program reports from any person who has discharged, discharges, proposes to discharge, or is suspected of discharging waste that could affect water quality. The attachment provides additional information about Section 13267 requirements. Any extension in the above deadline must be confirmed in writing by Regional Water Board staff.

If you have any questions, please contact Roger Papler of my staff at (510) 622-2435 [e-mail rpapler@waterboards.ca.gov].

Sincerely,

Bruce H. Wolfe
Executive Officer

Attachment: 13267 Fact Sheet
cc w/Attachment: Mailing List

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San Francisco Bay Regional Water Quality Control Board

Fact Sheet – Requirements for Submitting Technical Reports Under Section 13267 of the California Water Code

What does it mean when the Regional Water Board requires a technical report?

Section 13267¹ of the California Water Code provides that “...the regional board may require that any person who has discharged, discharges, or who is suspected of having discharged or discharging, or who proposes to discharge waste...that could affect the quality of waters...shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires.”

This requirement for a technical report seems to mean that I am guilty of something, or at least responsible for cleaning something up. What if that is not so?

The requirement for a technical report is a tool the Regional Water Board uses to investigate water quality issues or problems. The information provided can be used by the Regional Water Board to clarify whether a given party has responsibility.

Are there limits to what the Regional Water Board can ask for?

Yes. The information required must relate to an actual or suspected or proposed discharge of waste (including discharges of waste where the initial discharge occurred many years ago), and the burden of compliance must bear a reasonable relationship to the need for the report and the benefits obtained. The Regional Water Board is required to explain the reasons for its requirement.

What if I can provide the information, but not by the date specified?

A time extension may be given for good cause. Your request should be promptly submitted in writing, giving reasons.

Are there penalties if I don't comply?

Depending on the situation, the Regional Water Board can impose a fine of up to \$5,000 per day, and a court can impose fines of up to \$25,000 per day as well as criminal penalties. A person who submits false information or fails to comply with a requirement to submit a technical report may be found guilty of a misdemeanor. For some reports, submission of false information may be a felony.

Do I have to use a consultant or attorney to comply?

There is no legal requirement for this, but as a practical matter, in most cases the specialized nature of the information required makes use of a consultant and/or attorney advisable.

What if I disagree with the 13267 requirements and the Regional Water Board staff will not change the requirement and/or date to comply?

You may ask that the Regional Water Board reconsider the requirement, and/or submit a petition to the State Water Resources Control Board. See California Water Code sections 13320 and 13321 for details. A request for reconsideration to the Regional Water Board does not affect the 30-day deadline within which to file a petition to the State Water Resources Control Board.

If I have more questions, whom do I ask?

Requirements for technical reports include the name, telephone number, and email address of the Regional Water Board staff contact.

Revised March 2014

¹ All code sections referenced herein can be found by going to <http://leginfo.ca.gov/faces/codes.xhtml>.